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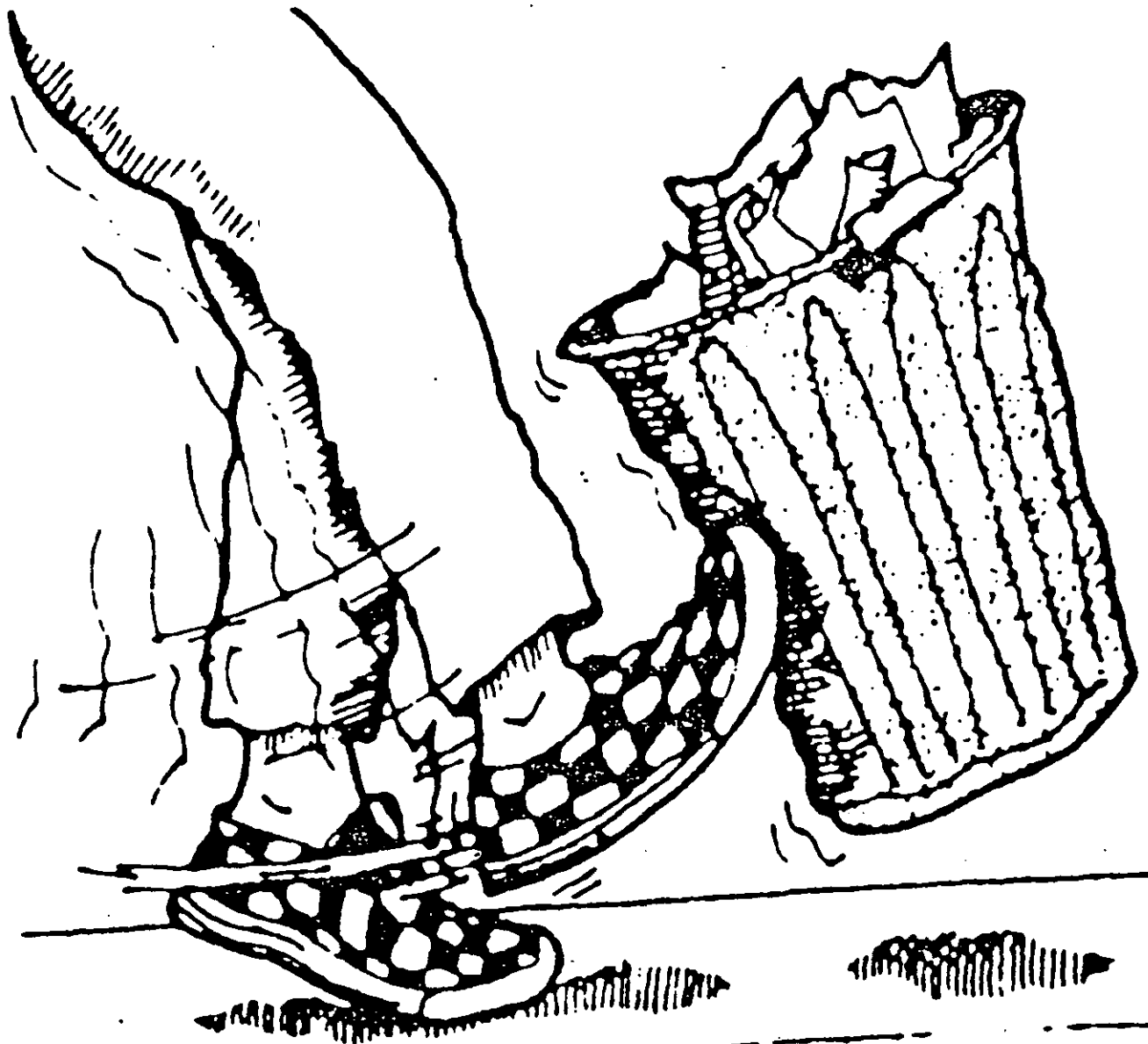
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LET'S KICK THE LITTER HABIT!

A LITTER AWARENESS PACKET



**LET'S KICK THE
LITTER HABIT!**

A.J. Bishel
Senior Honors Project
Spring, 1989
SOUTHERN ILLINOIS UNIVERSITY
AT CARBONDALE

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INTRODUCTION

What will our community be like in 10, 20 or 100 years? No one can be sure but predictions have been made. We have been learning much about our world and have made discoveries concerning man's direct and indirect actions which shape the environment.

A discovery that has become more and more visible is that the huge amounts of litter and waste man has created is hurting every living creature. Littering is an issue which will not go away. There is no magical "away" place. Litter is also a problem created by those who choose to pollute, but it affects the entire community.

People do have important choices concerning what they can do about litter. The choices each individual has are listed below:



To be a litterbug, ignore the litter problem and contribute to the problem in more than one way.

To throw litter in trash cans - when convenient - and feel they are doing all they can to make the problem go away.

To only throw "little things like candy and gum wrappers" on the ground.

To be aware of the litter problem and contribute to the solution by reducing the amount of litter in Carbondale.

Which choice will you make? _____

Each of us has a shared responsibility to provide all living things a safe and clean environment. We do not live in an isolated bubble on this planet. We interact with the environment each and every day. Our actions have obvious effects on the environment which are more than just the ugliness created.

In the following pages we will discover ways our individual actions can contribute to keeping Carbondale clean.

LITTER!

One of the ugliest forms of pollution today is litter. There seems to be no escape from this eyesore! Trash is on our streets, in our parks and forests, and is even being dumped into the rivers and oceans. Vast amounts of litter and waste are produced and thrown away everyday.

Litter is man-made waste out of place. Waste especially affects our community and surrounding environment when it is free to blow as litter wherever the wind decides. Can you name some of the causes (or sources) for our litter problem?

Why do you think trash becomes litter? (Remember,
litter is waste out of place)



DID YOU KNOW:

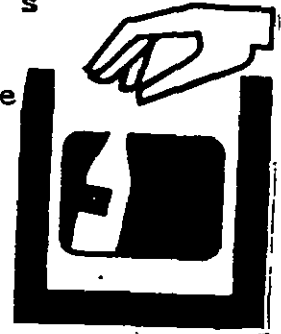
- Litter is man-made waste out of place.
- Thirty percent of what your family throws away is paper - and recyclable.

Every person in the United States produces about 1,400 pounds of waste each year? That's enough garbage to fill the New Orleans Superdome from top to bottom, twice a day, everyday of the year!

- Americans make up 5% of the world's population and produce 15 - 30% of the total world's solid waste annually.

- Southern Illinois University has to hire a private disposal service to get rid of its waste.

- Almost 50% of the solid waste produced by Southern Illinois University is paper.



- Paper from Chicago's City Hall is now being recycled into toilet paper for this same city hall.
- Littering on public and private grounds is illegal.
- Recycling is one method of reducing the amount of litter and garbage being produced.
- The "Age of Convenience" is having a negative effect on our lives. Pitch in! Be part of the solution...**not** part of the problem!

**TAKE
PRIDE IN
AMERICA**

FINDING THE EVIDENCE

LITTER HUNT

Go outside and look around your home or school. Pay special attention to the litter you see and collect 10 pieces of man-made litter. After examining the litter, write down where you believe this litter came from.

| Litter | Source |
|-------------------------------|--------------------|
| 1. <u>fast food container</u> | 1. <u>motorist</u> |
| 2. _____ | 2. _____ |
| 3. _____ | 3. _____ |
| 4. _____ | 4. _____ |
| 5. _____ | 5. _____ |
| 6. _____ | 6. _____ |
| 7. _____ | 7. _____ |
| 8. _____ | 8. _____ |
| 9. _____ | 9. _____ |
| 10. _____ | 10. _____ |

DON'T THROW AWAY THAT LITTER YET!

Let's examine it a little longer. Line it up from the biggest to the smallest pieces. Did you find more big or small pieces of litter? _____

Why do you think you found the size of litter that you did?

Now line the litter up with the most common items first and then the least common.

What trash do people throw on the ground the most? _____

Can you list reasons why people throw litter on the ground? _____ List as many reasons as you can think of below.

THE SEVEN SOURCES OF LITTER

Try to guess the seven sources of litter using the clues provided. Write down two types of litter caused by the source.

Litter Source



Litter Type

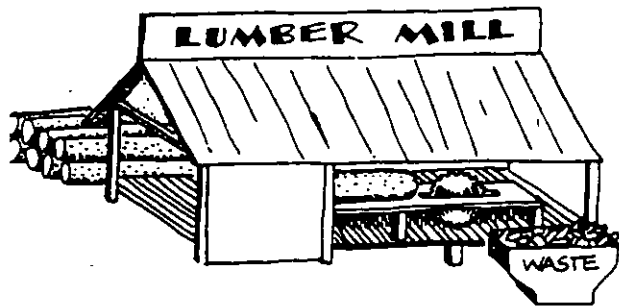
1. Food waste
2. _____
3. _____

Litter Source

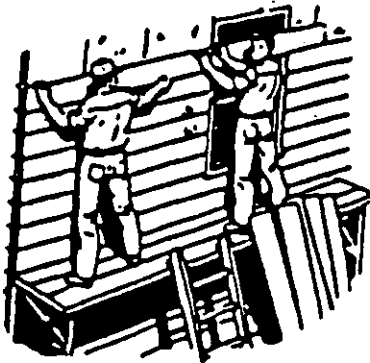


Litter Type

1. Paper from reports
2. _____
3. _____



1. Cigarette butts
2. _____
3. _____



1. Packaging
2. _____
3. _____



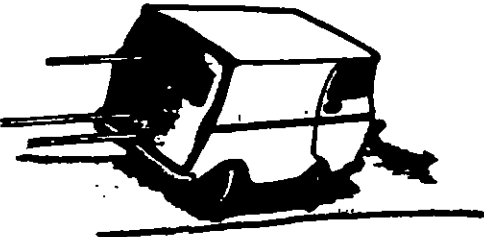
1. Loose material
2. _____
3. _____

Litter Source

Litter Type



1. Candy wrappers
2. _____
3. _____



1. Soda cans
2. _____
3. _____

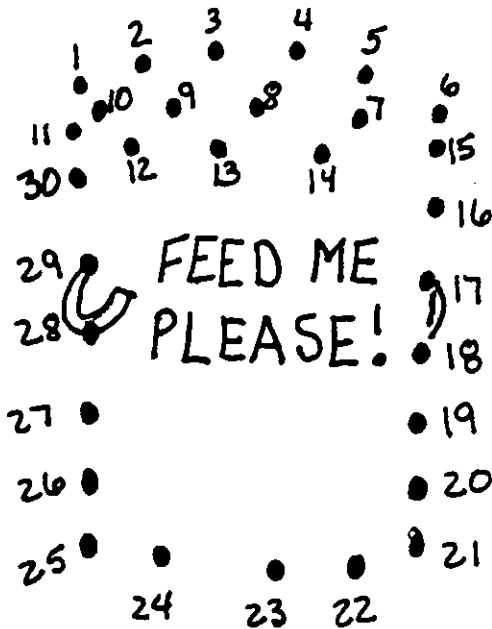
Below is a list of the 7 major sources of litter. Did you discover these sources from the pictures on the two previous pages? _____ Can you think of any other places where litter may originate that is not on the list? _____ If so, add them to the list below.

The Seven Sources of Litter

1. Home refuse areas
2. Business refuse areas
3. Loading docks
4. Construction sites
5. Uncovered trucks
6. Pedestrians
7. Motorists
8. _____
9. _____

WHAT AM I?

The world would be a cleaner place
If people used my empty space
To throw away their used-up things
Like bottles, cans and pop-top rings,
Paper cups and fishing lines;
I need to hold these things you find..



PACKAGING, PACKAGING!



Paper makes up the most trash anywhere! It comes with almost everything we buy. Remember your birthday presents last year? Were the gifts wrapped in paper? _____

What happened to that paper? _____

This extra paper is called packaging. Buy a pack of gum and save all the wrapping paper and foil from every piece of gum in the pack. How many wrappers would you have if you chewed a pack of gum a week for an entire year?

Can you think of other ways gum and other items can be packaged? _____

How can this paper be used after we unwrap it? _____

If we reduce the amount of packaging, will we reduce the amount of garbage? _____ Why or why not? _____

.....

TWENTY-SIX REUSES

For each letter in the alphabet, name one thing that you have thrown away. Next to the word, think of something you could have done with it besides throw it away.

Object

New Use

A.

B.

C. Clothes

Donate to a thrift store.

D.

E.

F. Fast food container

Wash out and use as boxes to store jewelry, thumb tacks, and other small items.

G.

H.

I.

J.

K.

L.

M. Magazines

Pass them along to a friend.

N.

O.

P. Pens (felt tip type)

It can become a secret kit. (See below)

Q.

R.

S.

T.

U.

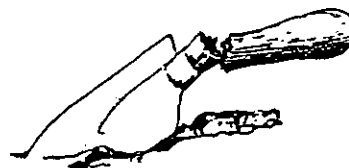
V.

W.

X.

Y.

Z.



An empty felt-tip pen with its snap-on top makes a secret kit that can hold small items. First, have someone help you cut through the barrel of the pen about $\frac{1}{2}$ inch above the felt point. Pull out the felt core of the pen. Now you have a plastic tube with a clip-on cap. These secret kits can be used as a sewing kit, fishing kit, a note holder, or anything else your imagination can think of.

VIEWSPOINTS

SARAH CYNTHIA STYLVA STOUT WOULD NOT TAKE THE GARBAGE OUT

Sarah Cynthia Stylva Stout
Would not take the garbage out
She'd scour the pots and scrape the pans,
Candy the yams and spice the ham,
And though her daddy would scream and shout,
She simply would not take the garbage out.
And so it piled up to the ceiling:
Coffee grounds, potato peelings,
Brown bananas, rotten peas,
Crumbs of sour cottage cheese.
It filled the can, it covered the floor,
It cracked the window and blocked the door
With bacon rinds and chicken bones,
Drippy ends of ice cream cones,
Prune pits, peach pits, orange peel,
Gloppy clumps of cold oatmeal,
Pizza crusts and withered greens,
Soggy beans and lungertines,
Crusts of black burned buttered toast,
Grisly bits of beefy roasts...
The garbage rolled on down the hall,
It raised the roof, it broke the wall...

Greasy napkins, cookie crumbs,
Gobs of gooey bubble gum,
Calophane from green baloney,
Rubbery blubbery macaroni,
Peanut butter, calbed and dry,
Curdled milk and crusts of pie,
Molty molons, dried-up mustard,
Egghells mixed with lemon custard,
Cold french fries and rancid meat,
Yellow lumps of Cream of Wheat,
At last the garbage reached so high
That finally it touched the sky.
And all the neighbors moved away,
And none of her friends would come to play.
And finally Sarah Cynthia Stout said,
"OK, I'll take the garbage out!"
But then, of course, it was too late...
The garbage reached across the state,
From New York to the Golden Gate,
And there, in the garbage she did hate,
Poor Sarah met an awful fate.
That I cannot right now relate
Because the hour is much too late.
But children, remember Sarah Stout
And always take the garbage out!



APPRECIATION

BIODEGRADABLE VS. NON-BIODEGRADABLE

Garbage and litter can be classified in two ways, biodegradable and non-biodegradable. Cloth, paper, cardboard, cotton, and wood are all biodegradable. In other words, these materials can be brokeed down by small living organisms in the soil. As time passes, these material decay into simple forms and organisms use the material for food. This process varies in the time it takes the biodegradable materials to decay. Not all litter, however, is biodegradable. Plastic, aluminum, tin, and glass are non-biodegradable materials. Living organisms cannot use this type of material so it continues to litter the land long after being thrown away.

Try the experiment below to find out what materials your family uses are biodegradable or non-biodegradable.

1. Collect small pieces of waste from your family's trash can. Look for pieces of aluminum, foil, paper, plastic, cardboard, and metals. Include table scraps with your collection.
2. Fill a plastic or glass container with soil to within one inch of the top.
3. "Bury" the small bits of waste at various depths in the soil. Place the materials close to the outer edge of the glass.
4. Be sure to pack soil around each piece of waste.
5. Cover the container with plastic wrap. Be sure to keep the soil moist.
6. Observe the container every few days for two to three weeks.

What items changed in appearance during the experiment?

| | | |
|-------|-------|-------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

WHAT'S YOUR LITTER IQ?

Answer the questions below the best you can and follow the instructions (go to) that is next to your answer.

1. Litter is a problem associated with cars, truck, and dump trucks so I do not have to worry about litter.

True - go to 10

False - go to 5

2. A source of litter is:

Home refuse areas - go to 8

A weed in the sidewalk - go to 16

Law enforcement - go to 19

3. Sorry, wrong answer. Tin cans are non-biodegradable. The environment and small organisms cannot break the tin down into usable food. It is estimated that it takes a century (100 years) for the tin can to show signs of decay.

go to 15

Litter!

4. There are very few places where trash does not exist in Carbondale. Ignoring the problem will not make it go away. By taking action today, this problem can be attacked.

go to 6

5. Good start! Litter is a problem that affects you, your friends, and even your pets! Carbondale is our town and our pride in southern Illinois is Carbondale's appearance.

One step you can begin today to keep Carbondale clean and green in to:

Pick up some trash everyday - go to 13

Walk where trash does not exist

and ignore it. - go to 4

Only litter where someone else has

and contribute to the problem. go to 31

6. There are commonly _____ source of litter.

2 - go to 14

5 - go to 23

7 - go to 32



7. Can you remember what percentage of your household trash is paper?

5% - go to 27

30% - go to 17

50% - go to 35



8. Correct! Home refuse area can be litter area if the garbage is not properly protected from animals, rain, and wind. Be sure your garbage is sealed and covered when it is outside.

go to 6

9. Wrong, some paper products can decay within 2 - 4 weeks, but it takes bamboo poles 1 - 3 years at the least.

go to 22

10. Ah, too bad, but litter is everyone's problem. It will not disappear on its own. We can help by becoming more aware of the problem and pitch in to help clean up Carbondale.

go to 2

11. Right again! Over one-half of all trash and litter is paper which can be recycled.

go to 12

12. How's your litter IQ so far? You have made it this far so the rest should be easy.

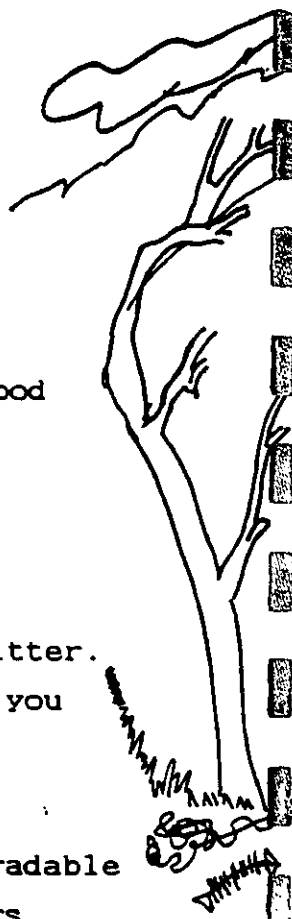
Do you know how long it takes for a tin can to decay?

3 - 14 months - go to 3

13. Good idea! Do a little "litter bit" each day on your way home from school. Set an example for others.
go to 6
14. Count them again. There are seven sources of litter.
Check the list of sources on page
go to 7
15. How long do it take for a bamboo pole to be broken down into usable food by small organisms in the environment?
2 - 4 weeks - go to 9
1 - 3 years - go to 18
200 - 500 years - go to 24
16. Aw, C'mon! Litter is considered man-made waste. A weed is a live plant. You may considered it litter but it is not man-made waste out of place.
go to 6
17. Right! Now for a tougher question. Do you know the percentage of all trash and litter found in the U.S.A.?
50% - go to 11
60% - go to 21
70% - go to 33
18. Nice job! A bamboo pole requires between 1 - 3 years to be broken down by the environment. However, if this bamboo pole is treated with paint or varnish, the time will be longer.
go to 22
19. Sorry, but the law enforcement is responsible for catching litterbugs and providing us with a safe and clean community.
go to 6
20. Close, you are halfway there! It takes about 100 years for a tin can to show any decay. As you can imagine, it will remain litter for a long time.
go to 15



21. Incorrect. We recycle or reuse about 50% of our recyclable garbage. However, Japan recycles an outstanding 60% of all its recyclable materials.
go to 12
22. Non-biodegradable materials provide nutritious food source for small organisms living in the soil.
True - go to 25
False - go to 30
23. Whoops! Did you forget about loading docks and construction sites? There are seven source of litter. Go back to page 7 to find the other two sources you forgot.
go to 7
24. Bamboo poles are a type of wood. Wood is biodegradable and can be broken down by organisms in 1 - 3 years.
go to 22
25. Wrong! Materials such as tin, aluminum, and glass cannot be broken down into usable energy by small organisms.
go to 28
26. Nope. Non-biodegradable materials are items such as plastic and aluminum which have no "food value" to small organisms. Paper, cardboard, and cloth can be broken down with the aid of small organisms. Many of these products can also be recycled.
go to 36
27. Incorrect! Better check your trash can again! Paper makes up 30% (almost 1/3) of all the trash in your home.
go to 12
28. Cardboard and cloth are considered:
biodegradable - go to 34
non-biodegradable - go to 26



29. Terrific! A tin can requires a very long time to decompose. By recycling items such as tin, aluminum, and glass, the time these metals are waste is reduced.

go to 15

30. Nice job. Remember this the next time you have an empty soda can. Recycle your can to reduce the litter in Carbondale.

go to 28

31. Not a good idea. This will only contribute and increase the problem.

go to 6

32. Yes, that's right! Litter comes from more than just a handful of areas.

go to 7

33. Nope! It may soon reach 70% but paper currently makes up 50% of all trash.

go to 12

34. Pretty smart! Biodegradable materials can be broken down by living organisms over time. Remember that paper and cardboard can also be recycled.

go to 36

35. Wrong! Try number 7 again. Check your trash can first.

36. Congratulations! You did it! How you did does not matter as long as you enjoyed yourself and learned a few tips for keeping Carbondale clean and green.



BE PART OF THE SOLUTION . . . NOT PART OF THE PROBLEM!

You have the chance to help become part of the solution and improve the appearance of Carbondale. Litter has been around for centuries, and during this time we have expertly learned how to ignore this ugly problem. The time has come that this litter issue can no longer be ignored. Listed below are a few steps you can take today to help keep Carbondale free of litter.

1. Take pride in your living environment! Check and clean your yard and sidewalk everyday.
2. DON'T LOSE IT! Put all litter in trash cans. Hold onto your trash until you can find a trash container.
3. Re-use your paper - it has two sides.
4. Donate old magazines, books, and clothing to a second hand store. Use it and pass it on.
5. Pick up some trash everyday. Don't walk past litter that someone has carelessly thrown down. Do a little "litter bit" everyday.



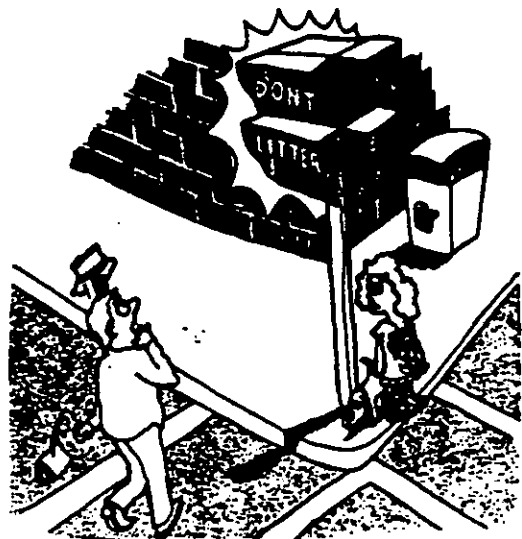
LITTER IN CARBONDALE

Every person alive today experiences the litter problem. It is right outside your door. In the busier parts of Carbondale, litter is more frequent. Why do you think this happens? _____

Go across the ocean, walk down a country road, or just watch the news on television. You can find litter everywhere! Do you think this means that it is acceptable and customary to litter? _____ Let's hope not!

Littering is against the law. Every person has the right to a clean and safe environment. We have a responsibility to ourselves, friends, and all creatures to keep Carbondale litter free.

Here's one way to catch litterbugs! Do you have any ideas? Draw or describe them below.



DID YOU KNOW:

- By the time you graduate from high school, Carbondale will have to spend thousands of dollars to have dumped elsewhere.
- Carbondale has its own litter laws which are enforced.

You have already done something to help keep Carbondale clean and green! By learning about the litter issue, you have taken the first step to attack the litter issue in Carbondale.

- At least 9 out of every ten people you meet today are unaware of how their actions, with regard to littering, negatively affect the environment.

- Garbage trucks stop about 3,465 times per week to collect garbage in Carbondale.

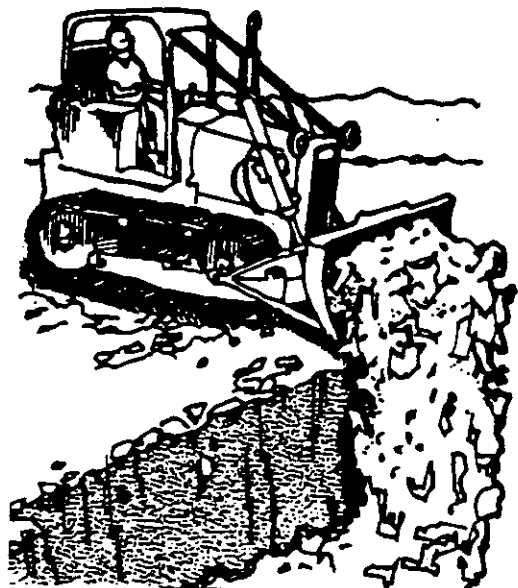
- Carbondale produced 42,000 tons of garbage from neighborhoods last year. That's enough garbage to fill a football field seven feet deep!

- All vehicles in the state of Washington must have a litter bag inside.

- Carbondale can benefit from a recycling program because the amount of garbage can thus be reduced.

- All businesses must present proof that they have their garbage disposed of legally. Southern Illinois Univeristy has a special truck that takes its medical wastes to St. Louis.

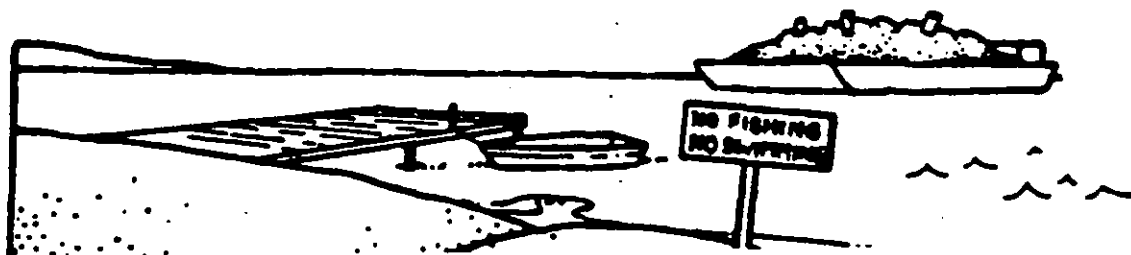
- The Jackson County Landfill will be full in ten years.



FINDING THE EVIDENCE

JUST LOOK AROUND

Go to as many areas described in the chart below as you can. Visit these places for 5 - 10 minutes. Pay special attention to the types of litter you see. Fill in the chart below and compare your reactions to litter in the different areas. There are questions on the next page that will help you evaluate your responses.



| Place Visited | Number of trash cans | Types of Litter | What do you think about litter now? |
|--------------------------------|----------------------|-----------------|-------------------------------------|
| 1. <u>your school</u> | | | |
| 2. <u>your street</u> | | | |
| 2. <u>a park</u> | | | |
| 4. <u>fast food restaurant</u> | | | |
| 5. <u>Other</u> | | | |

Where did you find the most litter? _____

Do you feel more trash cans are needed here? _____

Why or why not? _____

Review the other places you visited and determine if more trash cans are needed in Carbondale or if the litter problem is due to the lack of effort by individuals. _____



Does litter stand out more on the streets or in a park? _____

Why? _____

What steps can you take to help keep our town clean and green? _____

Will you? _____

HOUSEHOLD LITTER

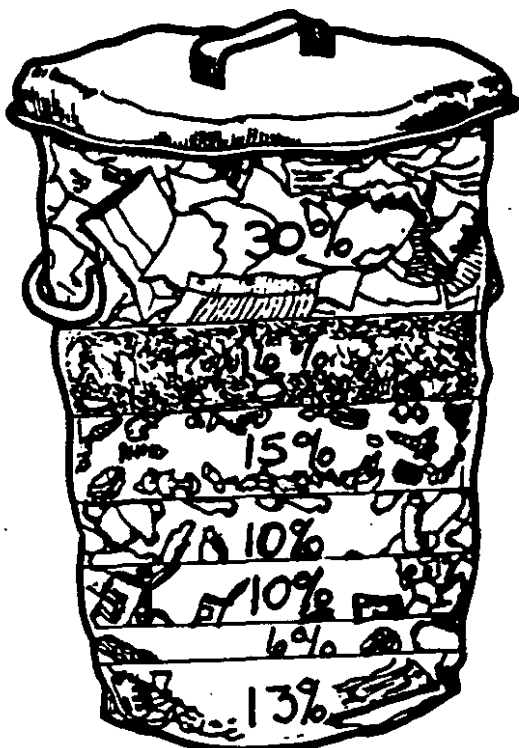
Every person throws away plastic, food, paper, grass clippings, and valuable metals everyday. Look through the variety of trash your family has recently thrown away. What is the most common type you found? _____

Why? _____

Could any thrown away have been recycled or reused? _____

If so, what? _____

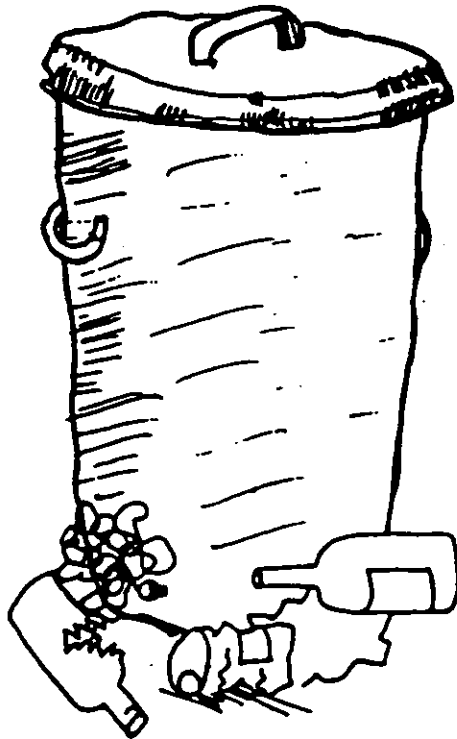
Below is a typical Carbondale family's garbage can. It has been divided into 7 litter types. Try to determine what percentage of the total trash each litter type contributes.



- _____ Plastic
- _____ Food Waste
- 30% Paper
- _____ Yard Waste
- _____ Metal
- _____ Glass
- _____ Other

PITCH IN!

Think of a litter slogan that you can use in your home, in your school, on the streets, or in the parks. Design a slogan that is unique and "user friendly". Draw your design on the trash can provided below or invent a new trash can!

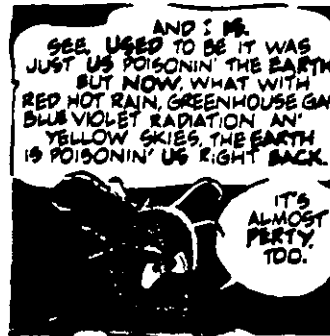


VIEWPOINTS

LITTER AND THE COMICS

WALT KELLY'S POGO

BY DOYLE & STERNECKY



OFF THE LEASH

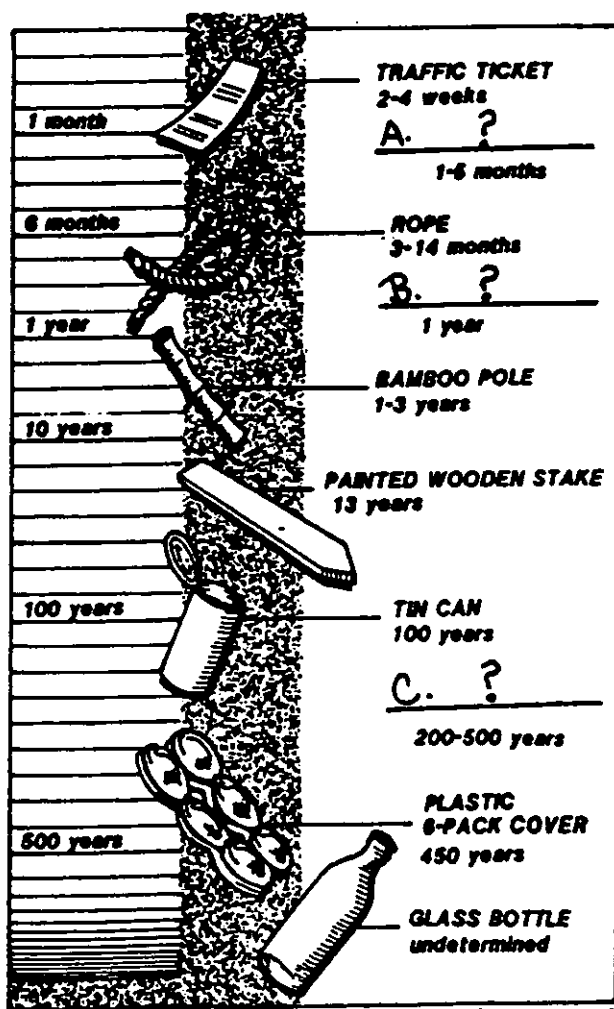


The last tree.

APPRECIATION

ENDURING LITTER

Litter pollutes our cities and streets everyday. The chart below shows the approximate time required for the different types of litter to decompose. Try to determine how long it takes an aluminum can, cotton rag, and a wool sock to decay.



ALUMINUM CAN



COTTON RAG



WOOL SOCK

What can individuals do to reduce the amount of time required for some of the items above to decay? _____

LITTER ATTITUDE SURVEY

Everyone in Carbondale has their own attitudes and habits concerning recycling and reusing materials. Let's survey some of your friends and neighbors about the litter problem. Use the questionnaire below to gather your facts. Make up two additional questions and add these to the survey. If anyone requests additional information, be sure to contact them and give them any information they desire.

Detach below this line.

A LITTER SURVEY

Please answer all questions by checking the correct corresponding answers.

1. What type of work do you do?

- | | |
|---|---|
| <input type="checkbox"/> student | <input type="checkbox"/> office worker |
| <input type="checkbox"/> professional | <input type="checkbox"/> business owner |
| <input type="checkbox"/> blue collar work | <input type="checkbox"/> (other) |

2. In what ways does your school or business contribute to the litter solution? (check all that apply)

- | |
|---|
| <input type="checkbox"/> Special containers are available for newspaper to be recycled. |
| <input type="checkbox"/> Special containers are available for aluminum cans |
| <input type="checkbox"/> Bathrooms are equipped with air dryers. |
| <input type="checkbox"/> Resuable coffee mugs and glasses are used instead of throwaway styrofoam cups. |



3. In which of the following ways do you feel your school or business ignores the litter problem? (Check all that apply)

- | |
|---|
| <input type="checkbox"/> Paper or aluminum are thrown into trash cans everyday. |
|---|

_____ Litter can be seen in the parking lot, on sidewalks, and around the grounds of the building.

_____ Paper, aluminum, or styrofoam with the school's name can be seen littering areas of Carbondale. (A paper cup from a fast food restaurant along the side of the road is an example.)

4. Which of the following does your household recycle or reuse? (check all that apply)

| | |
|---|-------------------------|
| _____ organic materials | _____ plastic |
| _____ aluminum cans | _____ motor oil |
| _____ newspaper | _____ glass |
| _____ magazines | _____ cardboard |
| _____ computer paper | _____ steel cans |
| _____ other metals | _____ none of the above |
| _____ other (not listed) please specify _____ | |

5. If you do not recycle, would you be willing to do so if you had more information about how to do recycle?

_____ yes _____ no

6. Do you think it is important for school children to learn about recycling and resource management in school?

_____ yes _____ no

7. May I contact you with more information concerning recycling and reusing our natural resources?

_____ yes _____ no

8. (add your first question here)



9. (add your second question here)

10. If you answered yes to question 7 and would like more information, please print your name, address, and phone number below.



Name _____

Address _____

Phone number _____

THANK YOU VERY MUCH FOR YOUR COOPERATION!!

Detach on above line.

After you have passed out the survey on the previous pages, answer the questions that follow and determine if the litter problem exists where you live.

How many surveys did you pass out? _____

How many people in your surveys recycle or resuse materials? _____

Figure the percentage of people in your survey who recycle or reuse materials. (Divide you answer to the first question into your answer from the second question.)

For example:
$$\frac{\text{Question 1}}{\text{Question 2}} \times 100 = \text{ } \%$$

Do you think more people should recycle? _____

Why or why not? _____

From your findings, what items do you think are
recycled the most in Carbondale?

| | |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

According to your findings, how much of the litter
problem is ignored in Carbondale? _____

Do you think Carbondale needs a recycling program?

Why or why not? _____

Do you feel the citizens of Carbondale are aware of
the litter problem caused by today's lifestyles? _____


Why or why not? _____

.....

A WAY TO REDUCE

Organic materials can be recycled into effective fertilizers. You can make your own compost pile out of organic materials used by your family. The compost pile will contain valuable nutrients needed for a healthy garden or other plants and flowers. To make your own compost pile, follow the instructions below.

The following is a list of household items that are organic and can be used in a compost pile:

| | | |
|-----------------|-----------------|---|
| potato peelings | eggshells | coffee grounds |
| apple cores | grass clippings | burnt toast |
| banana peels | fruit peelings | |
| celery | chicken bones |  |
| bacon rinds | peach pits | |

Can you think of anymore organic (natural) material?

A bucket is a good size to use. Place about three inches of dirt in the bottom of the bucket. Dirt contains bacteria, microscopic animals, and plants essential to begin the breakdown of organic matter. Add any organic matter to this dirt your family uses in the next two days. After two days, add a layer of leaves or grass clippings to the bucket. Throw in anymore organic wastes your family uses for the next two to three days. Continue this until the pile is as large as you need.

The compost should be turned every two to three days. Moisture in the compost should also be kept. Heat and nitrogen (from meat) are also important for a thorough decomposition. You will have a humus in three weeks by following these directions. Humus is the dark organic

material which is produced by the decomposition of the matter inside your bucket.

Compost piles reduce the amount of solid waste we throw out each day. Can you think of other benefits compost piles contribute? _____

WISELY OR WASTEFULLY

We consume things wisely but sometimes we consume wastefully. Examine the items in your trash can again. What items could have been reused or recycled? List your answers below.

| <u>Item found</u> | <u>New Use or recycleable</u> |
|----------------------|-------------------------------|
| 1. Paper | use both sides |
| 2. Aluminum cans | recycle |
| 3. Plastic milk jugs | |
| 4. | |
| 5. | |
| 6. | |
| 7. | |

How can you use your buying power to reduce the amount of wastefully consumed products? _____

Will you? _____

BE PART OF THE SOLUTION... NOT PART OF THE PROBLEM!

If you want to become part of the solution and help solve the litter problem, you can start right in your own home and community. The litter problem was caused by years of wastefulness. We, as a community, must take on the responsibility to keep Carbondale clean and green!

Steps You Can Take Today

1. **Recycle your aluminum cans!** Below is a list of recycling centers. Buy aluminum cans instead of steel cans because less energy is used to melt the cans down.

Can Bank
Lewis Park Mall

Karco
New Era Road
457-6319

Southern Recycling
220 S. Washington
549-2880

Karco and Southern Recycling also accepts newspaper, glass, plastic, metals, and paper. Be sure to call before taking in your items because not all the items are accepted everyday.

2. Make litterbags for your parent's car and set an example for others to follow by using the litterbags. Prevent roadside litter.
 3. Pick up litter everyday. This is your town so take pride in Carbondale. Do a little "litter bit" everyday.
 4. Organize your friends and neighbors and have a litter clean-up day once a month.
 5. Point out pollution. Tell people whose cars spew out smoke, who litter, carry loud radios or write on walls, that they are polluters, Ask them to stop and help save our environment.
-
-

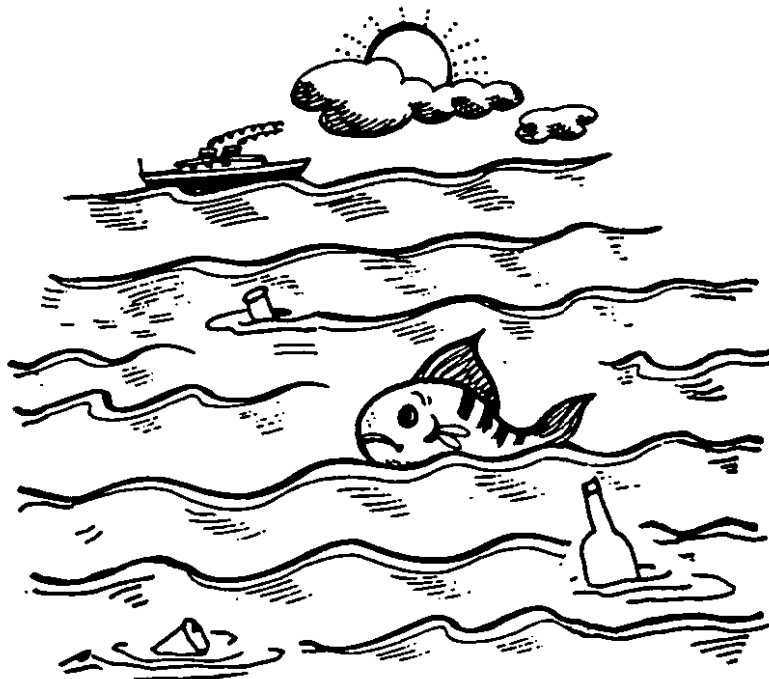
WATER AND LITTER

LITTER'S IMPACT ON WATER

Every living thing must have water to live. Water is used in many ways. It is used for transportation, cooking, and dumping our waste. What other uses can you list?

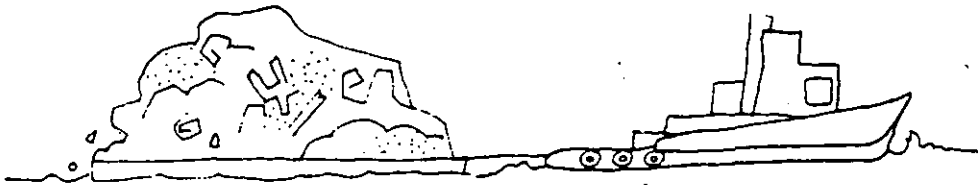
| | |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

There have been many problems created by our use of water. The result is water pollution. Pollution occurs when harmful material is added to the environment. Waste and litter are dumped into the rivers and oceans daily and cause the water to become unsafe for drinking or bathing. Also, wildlife is harmed as our environment becomes ugly and uninviting.



DID YOU KNOW:

- The water you drank today may have once been inside a sabre-tooth tiger or a tall pine tree. It could have come straight from the North Pole!
- A family uses 75 gallons of water daily.
- Over two-thirds (68%) of the surface water has water quality problems.
- Carbondale's main water reservoir is located at Evergreen Park. Glass and paper litter the shores.
- Oil spills that occur thousands of miles away can affect Carbondale's water.
- Humans have had many uses for water throughout history.
- When water becomes polluted, it takes many, many years for the pollutants to be removed.
- Solid waste is being dumped into the water near Chicago. This water eventually flows through Carbondale and costs the community much money to clean it for our use.
- Forty-eight (48) millions tons of material is dumped into our seas and oceans each year.



FINDING THE EVIDENCE

LITTER HUNT

Take a walk along a lake in this area and note the amount and types of litter you observe. How much litter did you find? _____

What types of trash did you discover? _____

Was most of the litter you saw biodegradable or non-biodegradable? _____

What will eventually happen to this water and the wildlife depended upon this water for survival? _____

How much litter did you pick up and put in a trash can? _____

WATER IN OUR HOMES

Fill in the chart on the next page after estimating the amount of water you use daily. It may help to fill up an empty plastic milk jug with water and pour water from the jug. These plastic jugs hold one gallon of water which, by the way, weighs about eight (8) pounds! Ask your parents to participate for a day and help you estimate water amounts.

WATER USED IN ONE DAY

| Uses | Number of Gallons Used by You | Number of Gallons Used by | Number of Gallons Used by | Total Used |
|----------|----------------------------------|---------------------------------|---------------------------------|---------------|
| Drinking | | | | |
| Nothing | | | | |
| Shoes | | | | |
| Laundry | | | | |
| Her | | | | |
| Her | | | | |

Total gallons used daily by your household: _____

Hint: Add the totals in the final Total Used column together.

Work Space



How can you decrease the amount of water you use daily?
Add your suggestions to the list below.

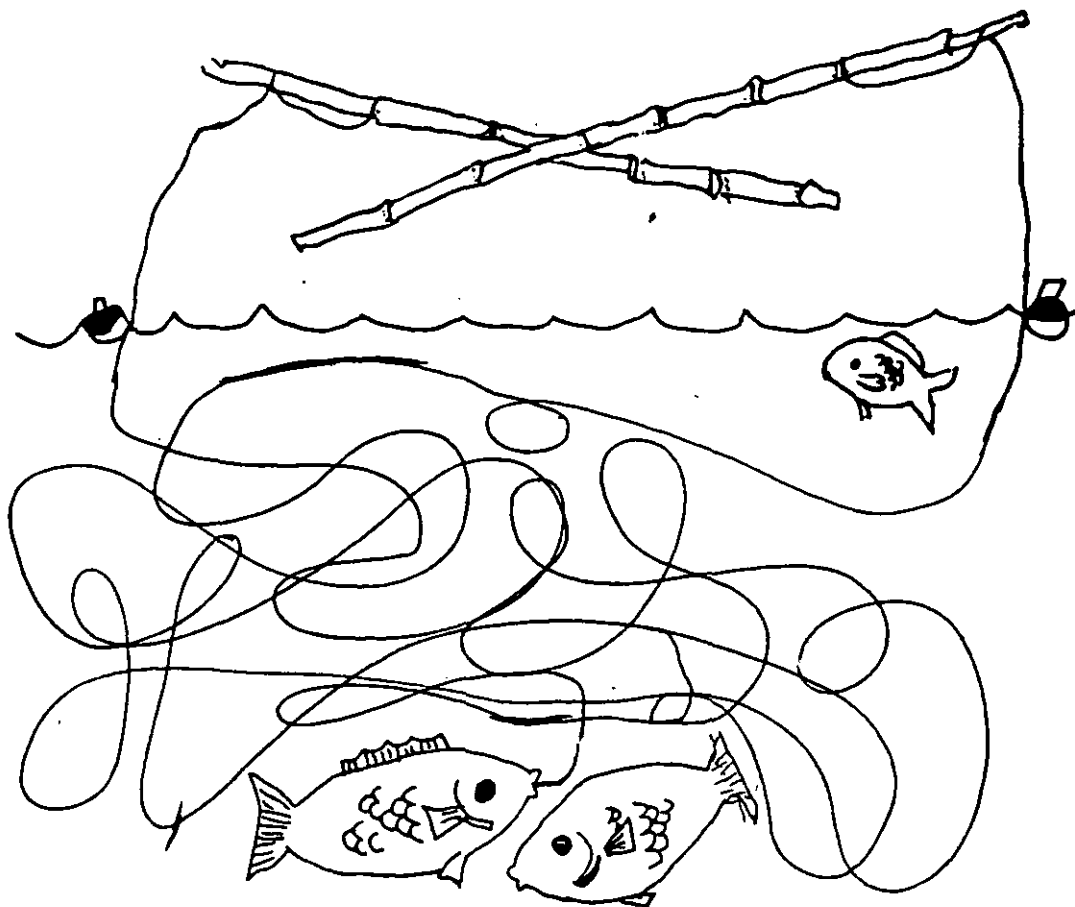
1. Spend less time in the shower.
2. Use rainwater to water plants around the house.
3. Turn the water off while brushing your teeth.
- 4.
- 5.

WATER FUN

Most individuals enjoy water sports. Your interest may be swimming, boating, fishing, or a variety of other activities. Go to your favorite outdoor water area and look carefully at it. A few places to explore are: the lake on the campus at Southern Illinois University, the reservoir at Evergreen Park, Crab Orchard, or any of the many creeks at Giant City State Park.

These are all great recreational areas for us but remember there are many animals who live nearby and are dependent upon the water in the particular area. Look at the shores and note the litter along the shore. Do you see more evidence of man visiting this area or of the animals which live in the surrounding area? _____

What line has a fish on it? _____



OUR USES OF WATER

We use water every day and have come to take water for granted. We have a limited amount of water on Earth and once it is polluted, we cannot use it until it has been cleaned by either nature (which can take years) or by using expensive filtering systems. Hidden in the puzzle below are 14 ways we use water every day.

Try to find these words. (see the answers on page 72)

Flushing

Farming

Recreation

Transportation

Irrigation

Washing clothes

Waste dumps

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | V | R | P | B | G | N | J | O | S | H | I | A | Q | C | N | T |
| T | K | F | H | R | N | I | W | A | S | T | E | D | U | M | P | S |
| B | R | U | S | H | I | N | G | H | Z | J | F | R | K | E | O | I |
| G | E | D | I | J | L | C | Z | I | G | R | L | C | L | F | O | W |
| A | C | O | G | A | O | F | A | E | U | B | N | S | B | L | M | A |
| V | R | L | M | V | O | B | I | Z | Y | O | A | K | O | U | Y | S |
| I | E | S | P | Y | C | M | J | S | O | A | G | T | B | S | J | H |
| L | A | K | B | P | Q | R | W | O | H | T | N | D | H | H | O | I |
| I | T | N | R | J | E | F | I | D | B | I | F | I | P | I | O | N |
| R | I | R | R | I | G | A | T | I | O | N | N | N | X | N | N | G |
| X | O | G | N | F | S | R | E | O | Z | G | K | G | H | G | E | C |
| C | N | I | I | C | Q | M | L | D | B | D | F | S | K | U | E | L |
| S | R | K | F | T | U | I | G | E | K | T | R | Y | J | K | O | O |
| K | D | N | Y | H | S | N | A | A | C | O | O | K | I | N | G | T |
| R | H | I | I | D | I | G | M | O | S | Y | R | U | P | L | S | H |
| D | K | R | N | C | P | R | C | L | H | M | F | L | G | M | A | E |
| R | T | D | K | H | G | N | I | H | T | A | B | O | G | N | T | S |
| M | F | R | T | R | A | N | S | P | O | R | T | A | T | I | O | N |

Bathing

Boating

Brushing

Cooling

Cooking

Drinking

Fishing



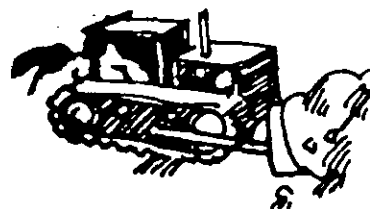
TAKE
PRIDE IN
AMERICA

VIEWSPOINTS

SANITARY LANDFILLS

If we bury our solid waste, we do not have an air pollution or a pest problem, and...

...the land can be used again after the solid waste is buried, and...



some waste can decay to become part of the soil,...

but land space for landfills is getting used up. And landfills may pollute supplies of ground water needed for drinking and irrigation.

Also, large amounts of energy are used to get the wastes there, perhaps to crush or shred them, to prepare the land, and to bury all the solid wastes.



Why must we reduce the amount of solid waste thrown away? _____

Can you list both good and bad aspects about dumping solid wastes in the oceans? _____

Good Points

Bad Points

1. _____

1. _____

2. _____

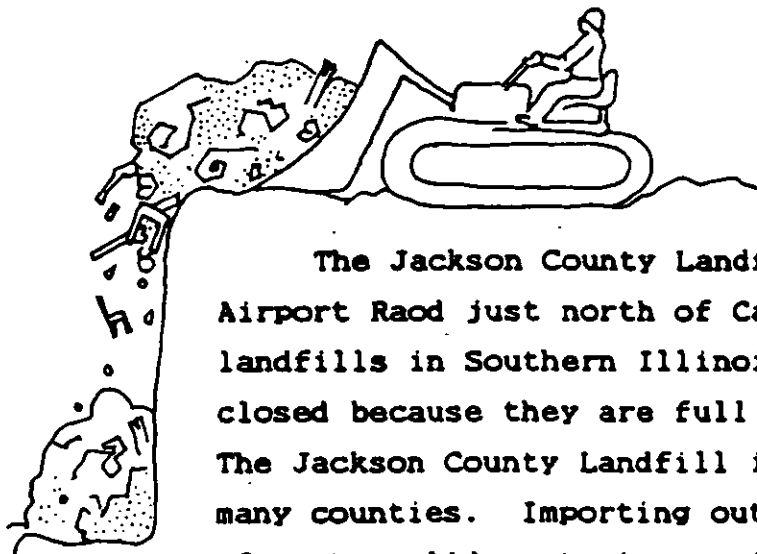
2. _____

3. _____

3. _____

WE'RE ALL IN THIS TOGETHER

Most people do not have a good understanding of Carbondale's present (and future) solid waste management. Do you know where dump trucks take the solid waste they collect throughout the day? _____



The Jackson County Landfill is located on Airport Road just north of Carbondale. Some landfills in Southern Illinois have already been closed because they are full of solid waste. The Jackson County Landfill is being used by many counties. Importing out-of-county or out-of-state solid waste is causing the lifespan of this landfill to shorten. Another worry to some officials is that it is unknown to landfill officials what is being brought in from other places and dumped.

Landfills will be usable longer if the amount of solid waste is reduced. Reduction is possible but it must begin in the homes and businesses of everyone. Separating items such as glass, newspapers, metals, and organic material is up to everyone.

The four basic categories of solid waste are outlined below.

1. Organic
2. Renewable resources/recyclable
3. Nonrenewable resources/recyclable
4. Nonrenewable resources/hard to recycle



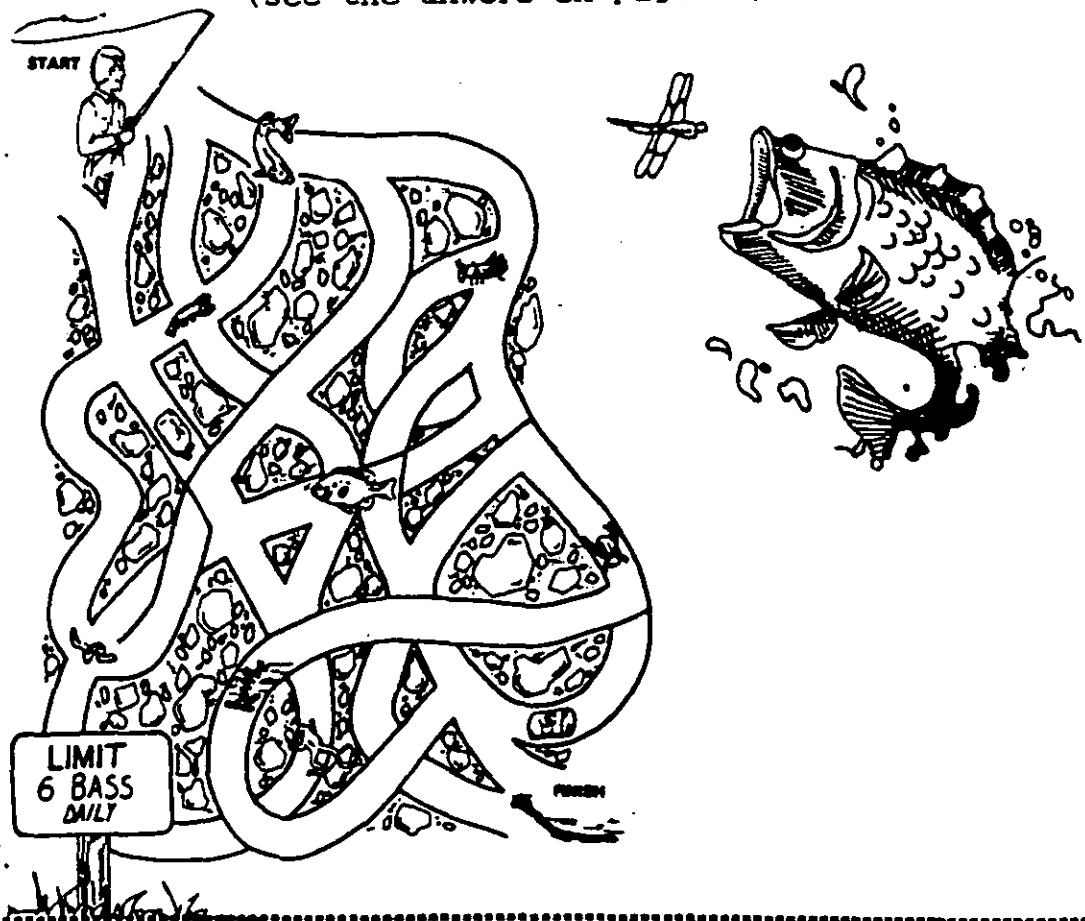
APPRECIATION

THE FOODCHAIN

Sea animals are important to us. Fish provides food for millions of people and animals. The oceans and rivers on the Earth play an important role in the balance of nature. Plants and small, single celled animals are eaten by fish. In turn, these fish become food for larger creatures. This process is called a food chain. This food chain must remain in balance with nature for all to benefit. However, the food chain is becoming upset because of our actions of taking too many fish and littering the waters with plastics, solid wastes, and oil (just to name a few). All life is dependent upon the success of marine animals to survive. If we are to survive, the oceans must be kept pollution free.

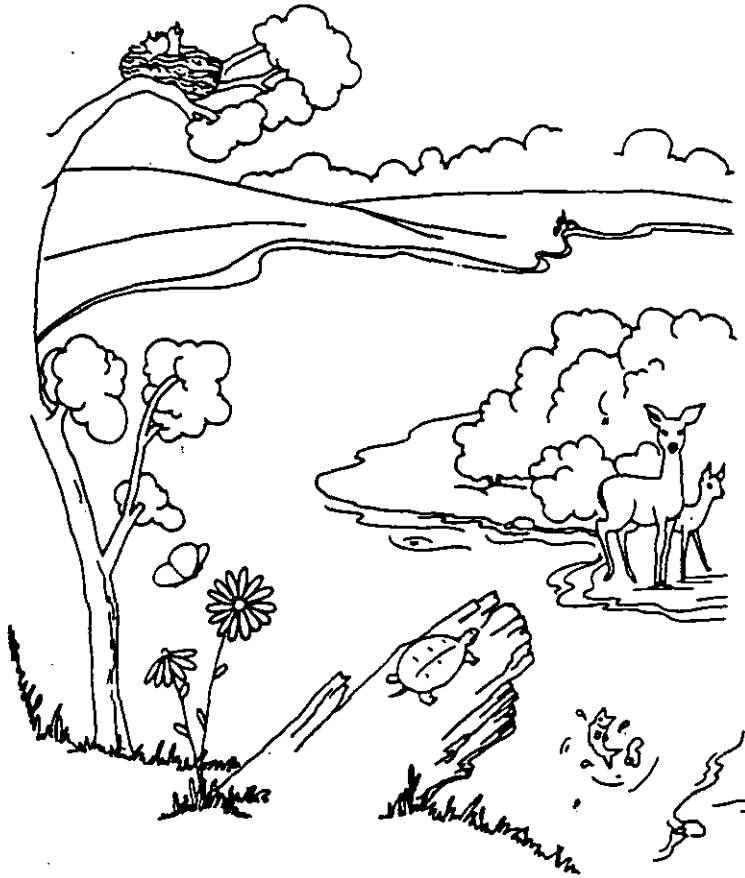
Try to follow the bass through its food chain.

(see the answers on page 72)



EARLY AMERICA

This is how the land looked before the early Americans arrived on this continent. The air and water were clean and clear.



Life cannot exist without clean water. What do you think would happen to this area if a factory was to be built on the far shore? _____

Why should we take care of our water and air? _____

TOO MUCH SALT?

Even though it is very obvious that clean water is essential to our survival, much of our available water is polluted and must be cleaned before it can be used for cooking, and bathing. Water pollution is not just the result of someone tossing a bottle into a river. Sanitary landfills, oil spills, and pollution in the air all pollute the water. We have all the water we will ever have. It exists in three forms and in many places. Can you name the three forms of water can exist in?

1. Water vapor in the air.
2. _____
3. _____

Water can be found in the oceans, underground, and even in the desert. In fact, there is water in the ground you are standing on! Much of the water is too salty for us to drink. All the water in the oceans is salt water. Salt has been brought into the oceans for millions of years.

This salt water evaporates into the air and is recycled by nature and returns to the earth as fresh water. Water falls everywhere. Some will go directly to the oceans while other water may soak into the ground or fall into lakes. As water flows along in a river, it washes minerals and salt from soils and rocks with it. This water will either be evaporated into the air or it will flow into the ocean. This is a cycle and it has been operating for millions and millions of years. Each year the oceans receive more salt and the oceans get saltier and saltier.

We need fresh water to use in our homes, stores, and factories. Fresh water turns into polluted water as rain passes through soot and dust as it falls over towns and cities. Water also becomes polluted after it has been used

in homes, stores, schools, offices, and factories for washing, cooking, and cleaning. Fresh water is used for irrigation and farming. The rain that runs off a farmer's fields carries soil and pesticides with it. This also pollutes the world's fresh water supply.

Fresh water can become polluted in many ways. A few are listed below. Can you think of any other ways water pollution can occur?

1. Fresh water turns into polluted water as rain picks up soot and dust as it falls through the air over towns and cities.
2. Water becomes polluted after it has been used in homes, schools, stores, and factories for cleaning, cooking, and washing purposes.
3. Rain that runs off a farmer's fields carries soil and pesticides with it into lakes, rivers, and ponds.
4. _____

5. _____

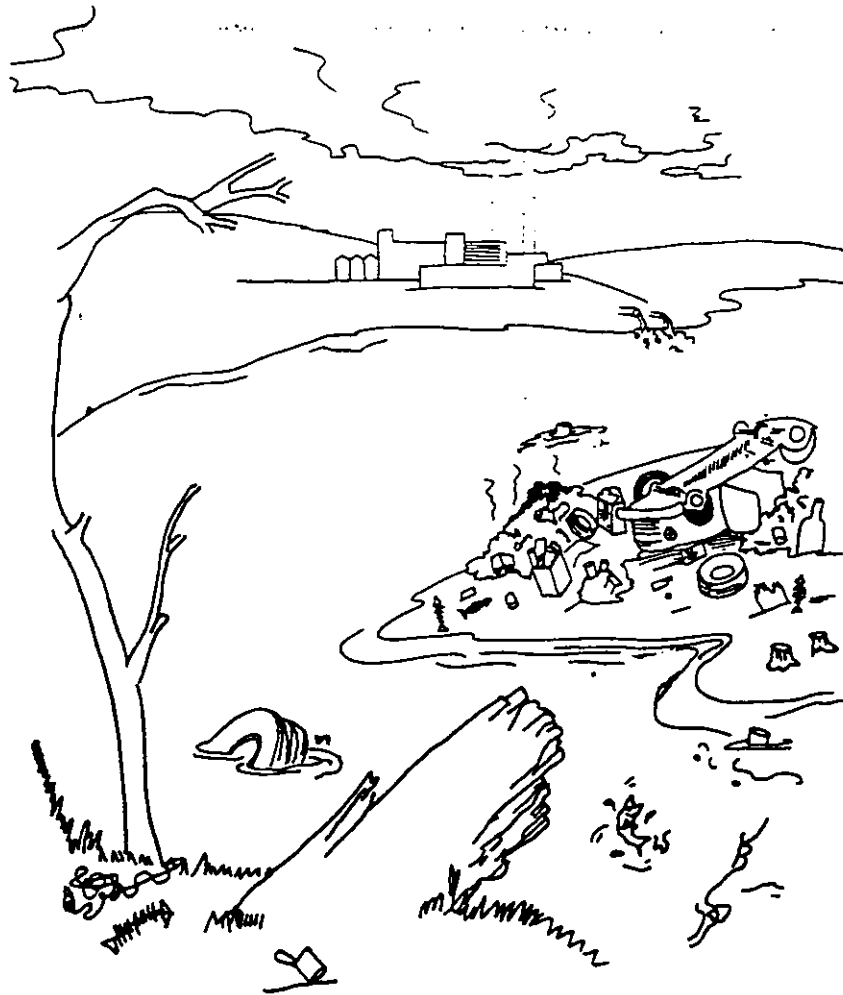
6. _____

LITTER'S IMPACT ON WATER

The picture on the next page is one that has become polluted. This lake has been change by man. Do you think fish can live in this lake? _____

Circle evidence on the picture below that tells you
this water is polluted. Would you like to swim in this lake?

_____ Why or why not? _____



What could you do to make this a better place? _____

BIKE IT!

When water is used for transportation, waste dumps, and recreational purposes, pollution and litter are often the result. Much of the United States petroleum oil is imported (brought into the country from another country) for our use. Oil spills occur frequently and pollute the ocean's water killing valuable food sources. How can you help this problem? Glad you asked!!



Exercise is very good for your health. Ride your bike or walk to places (when it's daylight) instead of having your parents drive you. Record the distance between your home and other places that you travel throughout the day in the chart below.



| Starting Point | Destination | Safe to Ride on | Distance | Time by Car |
|----------------|-------------|-----------------|--------------------|-------------|
| 1. Home | SIU | yes | $\frac{1}{2}$ mile | 5 min. |
| 2. Home | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |

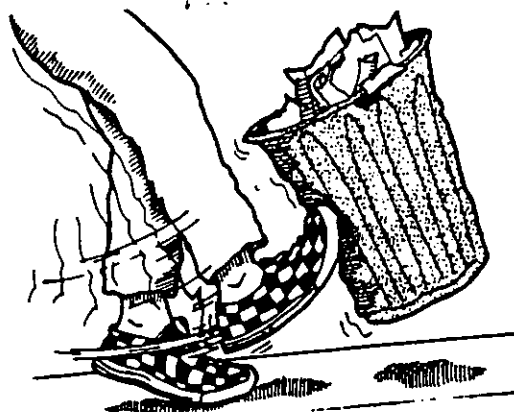
Now, determine how long it takes you to ride one mile on your bike (if you enjoy running/walking, you can walk to these places). Mark off a mile in your neighborhood. Ask your parents' to help you determine a variety of distances. Using a watch, time yourself at a variety of distances.

Record these distances and times. in the chart below:

| Distance | Time Required |
|-----------------------------|-----------------------------|
| <u>1/4 mile</u> | <u> </u> |
| <u>1/2 mile</u> | <u> </u> |
| <u>1 mile</u> | <u> </u> |
| <u>1 1/2 miles</u> | <u> </u> |
| <u> </u> | <u> </u> |
| <u> </u> | <u> </u> |

Now go back to the chart on the previous page and determine how long it will take you, by bike to reach your various destinations. To do this, compare your time required to travel the distance between your starting points and destinations.

By riding or walking as much as possible, you are making a contribution to the welfare of the environment. In addition to helping clean up the environment, you will be doing your body and mind a good deed each day. Exercise allows you to relieve stress and do something good for your body.



KICK
THE
WASTE
HABIT!

BE PART OF THE SOLUTION . . . NOT PART OF THE PROBLEM!

By becoming aware of the many uses of water and understanding its tremendous value to all life, you have made the first step in conserving a very valuable resource. List below are more ways to conserve water.

1. Help conserve our water by using no more than your share. Protest water waste wherever you spot it.
2. Use sprinklers as little as possible during the hot summer days.
3. Repair all leaky faucets. No natural resource is unlimited.
4. Take showers instead of tub baths. By using less water, you will also be saving energy that is needed to heat the water.
5. Encourage the use of electric motors on boats instead of the large gas run motors. These are not only loud but usually discard oil into the water.



SHRINKING HABITAT

All animals, either directly or indirectly, depend upon plants, sunlight, water, soil, and air. The environment provides the basic needs of water, shelter, food, and space all creatures - including people and pets - need to survive.

When one of the basic needs is not present, the animal must adapt and find a new way to meet the need or it will die. A concern for the land and its resources is vital to our survival. Can you list any ways we change the environment that affects plants and animals?

| | |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |



If you listed litter, oil spills, smoke, landfills, or dumping solid waste in the oceans and rivers, you are on the
RIGHT TRACK!

DID YOU KNOW?

- Only about 1/4 of the paper, aluminum, iron, and steel used in the world is recovered for recycling.

- By conserving our paper products, the amount of lumbering in the Shawnee National Forest can be reduced.

- Carbondale dumps its trash and waste at the Jackson County Landfill. Garbage from many other towns is also dumped here. This landfill will be full in ten years.



- Trees give off oxygen into the air. This provides us with clean air. Planting a tree is good for your own health.

- Vehicles in Illinois are not checked for the amount of pollution they put into the air. Air pollution is the result.

- The "Age of Convenience" attitude is having a negative effect on our lives.

- Since the early 1970's, the amount of plastic in the marine environment has drastically increased.

- It is estimated that about 50,000 Northern Fur Seals die each year in the North Pacific Waters because they get tangled up in fishing gear.

- Marine animals often mistake plastic litter for food and can die as a result.

- Many wild animals (like squirrels) are so dependent on people that they no longer know how to survive in the forests.

- Ladybugs can eat several times their weight in small undesirable garden insects!

FINDING THE EVIDENCE

WILDLIFE SCAVENGER HUNT

Do you know who you share your environment with? _____

This is a scavenger hunt to find evidence of wildlife in your own yard or home. Wildlife is considered to be any animal that lives without the aid of people and provides for its own food, shelter, water, and protection.

Before you begin this scavenger hunt, list as many wild animals you can think of that may live right outside your house or in your home with you.

- | | | |
|----------|----------|----------|
| 1. _____ | 4. _____ | 7. _____ |
| 2. _____ | 5. _____ | 8. _____ |
| 3. _____ | 6. _____ | 9. _____ |

WILDLIFE SCAVENGER HUNT!

CAUTION: Be careful not to kill any animals or damage their homes.

Go outside and find evidence of the following:

1. Humans and wildlife share environments.

What did you find? (houses & birdnests)



2. Humans and wildlife must adjust to their environment, move to a more suitable environment, or perish.

What evidence of adjustment did you find? (air conditioners on homes)

3. Wildlife is all around us, even if we can't see or hear it.

What evidence of wildlife did you find? (spider webs in corners)

4. Wildlife ranges from small in size to very big.

What wildlife did you see or hear? (ants & deer)

5. People and wildlife experience some of the same problems.

What problems do you share with wildlife? (water pollution)

6. People and wildlife both need a place to live.

What types of habitats* did you find? (nest)

7. List the similarities between the habitats that you found.

| | |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

*A habitat is an animal's home. A habitat is made up of the surrounding area an animal must have to hunt, sleep, play, and raise families.

LITTER VALUES

Litter occurs everywhere human exist. It is more frequent where large crowds or population live. The impact of litter depends upon its setting. A piece of litter is ugly and stands out in the Shawnee National Forest while that same piece of litter may be taken for granted near a fast food restuarant or after a ball game.

Let's examine this idea more closely. Go to your favorite natural setting and a more popular outdoor setting such as a ball game, sunset concert, or a picnic area. Fill in the chart below according to your findings atat these two areas.

Places Selected: 1. _____ natural setting

2. _____ popular setting

Time of Year Visited: 1. _____

2. _____

Evidence of Man

Natural Setting

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

Popular Setting

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

From the evidence listed above, how much evidence of man is preventable? _____

List below suggestions you have which would improve the natural setting.

1. _____
2. _____
3. _____
4. _____
5. _____

How did the items on the list below affect your experience at this place? Use the rating scale below at the right.

Litter _____

Buildings _____

Trash cans _____

Trails _____

Signs _____

Other _____

Other _____

1 - items took away from setting

3 - items did not affect the setting

5 - item enhanced the setting

What items on your list take away from this purpose of this setting? _____

Compare your answers for each of the two places that you visited. Pay special attention to the rankings you gave concerning different man-made structures.

What similarities or differences did you find? Why?

Your rankings were based on your own set of values.

.....

CATCH THE POLLUTANT !

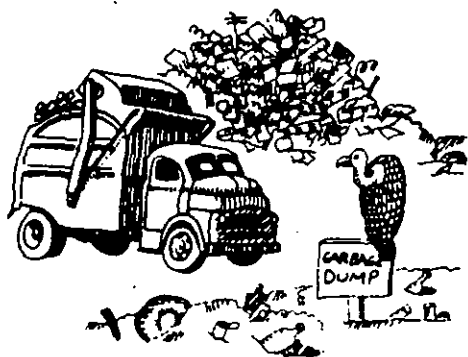
There are many pollutants in the outdoors. A pollutant is any man-made waste out-of-place. Pollutants harm the environments in which all people, plants, and animals live.

Catch the pollutants on the following page. Players take turns connecting 2 dots. Lines go across or down, not diagonally. Complete as many small squares as you can. Initial each square you complete and take another turn. Squares in which pollutants are caught count 5 points. All other squares count 1 point.



WHERE IS THERE SPACE FOR WASTE?

Landfills also have an obvious effect on the outdoors. As landfills close, new ones will be opened. Southern Illinois has great potential for new landfills (and more garbage) because of its vast open areas. The new landfills



may replace natural areas where wildlife exists. As cities grow, the outdoors will also be stolen. Solid wastes will replace fields and farms, but by reducing our garbage, we can reduce the the size of landfills.

Resources such as aluminum, tin, plastic, and glass are valuable resources that cannot be put back into the environment. These nonrenewable resources are thrown away each day. Aluminum cans, glass, and time can be recycled. Itever, plastics and styrofoam are not easy to recycle. Items such as pens, lighters, milk containers, and plastic bags are examples of hard to recycle nonrenewable resources.

Even so, there are resuses for these items if you have good imagination. You have another option of not using these types of items. For example, don't accept a bag for items you buy that can be carried in your hands.

What reuses can you think of for the following items?

1. Plastic milk jugs (Decorate it and use it as a piggy bank.)
 1. _____
 2. _____
2. Detergent squeeze bottles (Fill it with rain water and add a few drops of food coloring. Paint * , snow with this formula.)

1. _____

2. _____

3. Styrofoam

(Make a styrofoam float using toothpicks, glue, and paper.)

1. _____

2. _____

THE END OF THE ROAD

There are people who continue to treat the environment with disrespect. We are very dependent upon the earth for our water, food, and shelter. Without basic needs, our chances for survival are limited.



When people dump trash along the road, many

When people dump trash carelessly along the road, many problems are created.

What steps can you take to combat this dumping? _____

What problems can this litter cause you, wildlife, and the environment? _____

VIEWPOINTS

COULD THIS HAPPEN?

When this land was new
We thrived in great rivers,
In quiet lakes,
In rushing streams of deep woods,
In small ponds of fields and farms.

There we hatched and fed and grew
And swam in the clear, clean water.

Then people came
And came and changed the land.
People came and paved and dumped
And littered and spilled
And changed the world.

We gasped for air.
We swam to deep pools
And found them trashed and spoiled.
We looked for a place to hide and rest –
A place to breed and raise our young –
But there was none.

I swim alone!

What is the animal in this poem? _____

Did people respect this animal's habitat? _____

Did people respect their own environment? _____

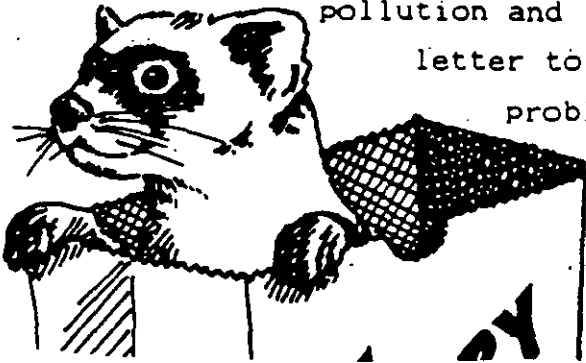
In what ways did people pollute the water? _____

Why does this problem persist all over the world even
though the effects are well known? _____

YOUR TURN

Now it is your turn. If animals could speak for themselves, what do you think they would say?

Pretend you are an animal in danger because of pollution and litter. Write a poem or letter to tell people what your problems and needs are. Let them know what they could do to help save your existence.



For a real challenge, write a letter, from your own point of view, on behalf of an

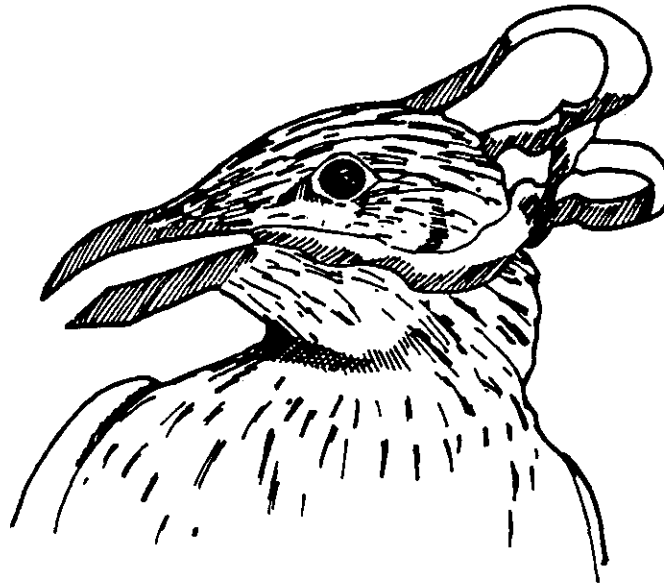
Dear _____: endangered animal, below.



LITTER IN THE ENVIRONMENT

Environmental pollution affects all forms of life. Litter is unsightly. It also exposes wildlife and other animals to illness, injury, and death.

Fishing lines may get tangled on legs and beak of water birds like geese and herons. Some of these birds need to run short distances to take off when they fly. The fish line prevents "take-off". It also interferes with their swimming. Birds with long bills often get wrapped around their bills and cannot open their mouths to eat. A slow death follows. The line also gets tangled in their wings, preventing the birds from flying.



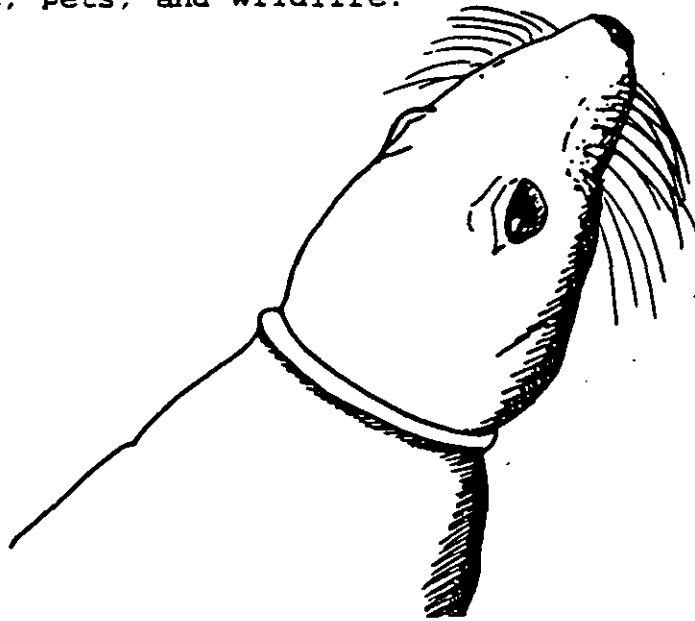
Gulls may get caught in six-pack straps.

Sometimes fish or birds get into the loop portions of six-pack can holders. The animal continues to grow, but the loop won't stretch. Starvation results. These loops can also get tangled around the feet of waterfowl.

Half-open cans are a problem. Animals, like deer, can cut their tongues on the cans. Sometimes smaller animals get their heads stuck inside such cans and they cannot eat. Starvation is the result. Mice and chipmunks crawl into opened bottles and get trapped inside, unable to get a footing on the slippery glass to push themselves out through the small opening.

Shiny bottle caps or pop-tops may be eaten by wildlife, including fish, injuring or killing them. Cigarette butts, cellophane wrapper, and styrofoam cups, eaten by deer, can cause internal problems.

Broken glass from bottles and other glass objects can injure people, pets, and wildlife.



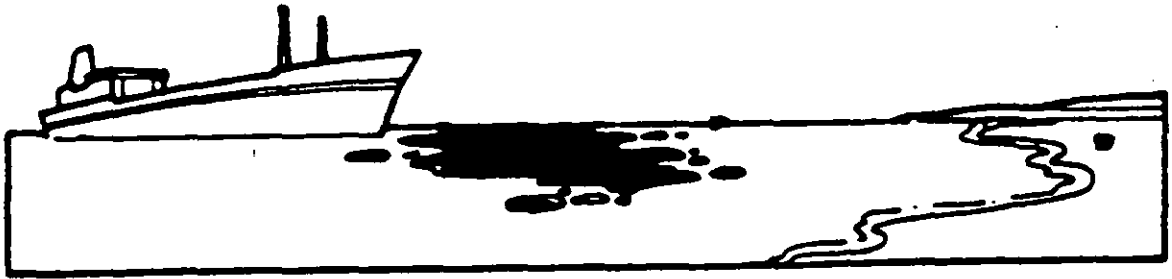
As this seal grows, the plastic band will tighten.

Can you explain why litter in the outdoors is not
"just the animals' problem"? _____

CLEAN-UP CHOICES

Oil spills occur daily on land and in the water. These oil spills kill plants and wildlife. Plants and wildlife has no way of protecting themselves from oil. Oil forms a thick coating over the water, land, leaves and stems of plants, and on animals. This oil can also cut off oxygen, sunlight, and food to many animals and plants.

What are some ways to clean up an oil spill? Try the experiment below to discover effective methods.



Materials Needed

| | |
|--------------------|---------------|
| shallow baking pan | motor oil |
| water | paper towel |
| spoon | aluminum foil |
| | cotton ball |
| liquid detergent | measuring cup |

Procedure

1. Add water until the pan is three-fourths full. Add about $\frac{1}{2}$ cups of motor oil. Watch how the motor oil spreads across the surface.

Your observations: _____

2. Try several methods for cleaning up the oil. If a method removes the oil, add more oil.

3. Try to remove the oil with the spoon. Record your results in the space provided below.
4. Repeat step 3 using a cotton ball. Record your results.
5. Repeat step 3 using aluminum foil. Record your results.
6. Repeat step 3 using a paper towel. Record your results.
7. Repeat step 3 using liquid detergent. (Drop several drops of detergent on the oil on the surface of the water.) Record your results.

1. Spoon _____
2. Cotton Ball _____
3. Aluminum Foil _____
4. Paper Towel _____
5. Liquid Detergent _____

Did the oil spread rapidly across the water? _____

Which of the methods tried were best for cleaning up oil? Why? _____

Which methods were the worst? Why? _____

What happened when the detergent was dropped on the oil? _____

How could detergent be used to clean up an oil spill? _____

WHEN IS A WEED A WEED?

Each individual has a basic set of values. How a person feels or behaves in different situations or with issues is related to his/her values. A value can be considered as the worth an individual places on something.

For example, some people feel that there is no such thing as a weed and that all plants have some uses and therefore have a right to grow.

How do you feel about that statement? Rate your feelings on the scale below.

5 4 3 2 1

Strongly
Agree

Neutral

Strongly
Disagree

A weed is a plant out of place. Therefore, a rose bush could be considered a weed if it grew in an onion patch. Whether or not a plant is called a weed depends upon the situation and the person's values. Some people call dandelions weeds when they grow in lawns, and others like to see the yellow flowers growing in lawns and do not consider them weeds. Sometimes a dandelion is considered a weed when it grows in a lawn and a useful plant when it grows by the roadside.



Take a community survey in your neighborhood to find out which plants are considered to be weeds. If you find differing opinions, you will know that people's values are different. Sometimes plants that are considered weeds can be useful for different purposes. The following two plants are sometimes considered to be weeds.

| <u>Weed</u> | <u>Use</u> |
|-------------|---|
| Dandelion | Dried roots can be a coffee substitute; young leaves can be used in salads (do not use if the plants have been sprayed with a pesticide). |
| Poison Ivy | Birds eat the white berries. |

Should a plant that is judged useful to animals still be called a weed? _____

Some people feel that there is no such thing as a weed and that all plants have some uses and therefore, have a right to grow. How do you feel about this statement now?

| | | | | |
|----------------|---|---------|-------------------|---|
| 5 | 4 | 3 | 2 | 1 |
| Strongly Agree | | Neutral | Strongly Disagree | |

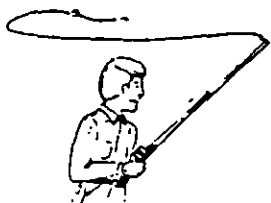
Did your attitude concerning weeds change after learning something about a dandelion's and poison ivy's uses? _____

What caused your values to change - if they did? _____

A CODE OF ETHICS?

If we want to continue to enjoy our favorite natural areas, we need to limit the ways these areas are used. Conservation is a term meaning the act of prevention from decay, harm, or waste. Below is a widely accepted Trail User's Code of Ethics. This Code has been compiled with a high value of conserving our natural resources.

1. I will appreciate the solitude and beauty of the trail and the surrounding environment. I will respect the feelings of others toward it.
2. I will do my best to preserve the natural and historic features which attracted me to the trail.
3. I will not disturb plant and animal wildlife along the trail.
4. I will use only established campsites and rest areas when available.
5. I will reduce the litter problem by carrying out all that I take in and more.
6. I will take care to conserve the improvements that have been placed along the trail.
7. I will use a trail only for its designated purpose.
8. I will not promote activities or create situations that disturb others.
9. I will promote the use of maps, educational materials and equipment that will help trail users achieve maximum enjoyment.
10. I will exercise utmost care with open fires.
11. I will not exceed my physical or technical capabilities and will travel equipped to meet emergency situations.
12. I will treat property of others with the same care I would give my own property by not entering posted land, by observing laws and regulations and by discouraging violations of them, by getting permission before entering private property, and by not disturbing livestock nor passing over cultivated fields.



Take a walk with your brother, sister, friends, or parents and discuss examples of how the Code benefits people and animals. Look for evidence that shows previous users not following some of the items in the Code. How did this evidence affect your walk? _____

Write your own code of ethics for using a natural area, local park, or school grounds. Some of the items in the Code on the previous page may be not apply to your setting.

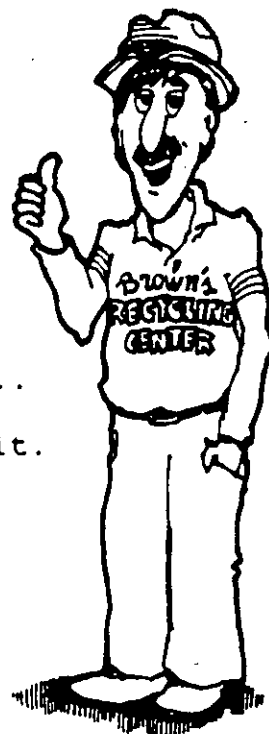
A Code of Ethics for _____

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

**BE PART OF THE
SOLUTION...
NOT PART OF THE PROBLEM!**

There are many steps you can begin taking today to protect our environment and wildlife. Listed below are just a few ways.

1. Use local recycling centers.
2. Grow a plant...plant a tree.
Green plants improve the air you breath.
3. Respect and preserve wildlife.
4. As a consumer, use your purchasing power wisely.
5. Make and use litterbags.
6. Help conserve natural resources...
use no more than your share.
Protest waste wherever you find it.
7. Reduce your share of garbage.
8. Do not leave lights burning
in unoccupied rooms.
9. Point out leaky faucets
to your parents. No natural
resource is unlimited.
10. Learn all you can about ecology and the environment.
Tell others about your findings.

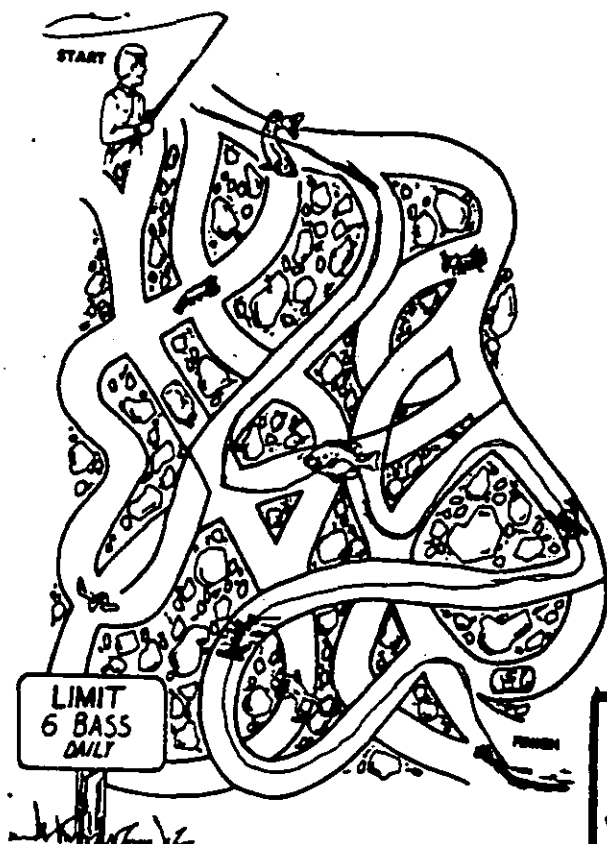


**BAD GUYS ABUSE PUBLIC LAND.
GOOD GUYS SAVE IT.**



Take Pride in America Campaign Coordinated by the Department of Interior

ANSWERS TO THE WATER FUN SEEK & FIND
AND TO THE
FOODCHAIN MAZE.



People eat bass



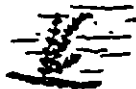
Bass eats bluegill



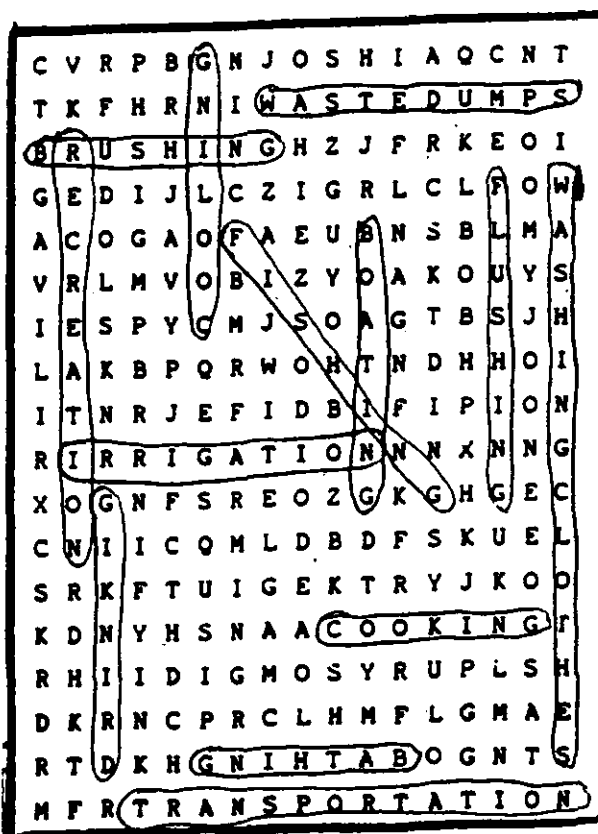
Bluegill eats aquatic insects



Aquatic insects eat aquatic plants



Aquatic plants use soil



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